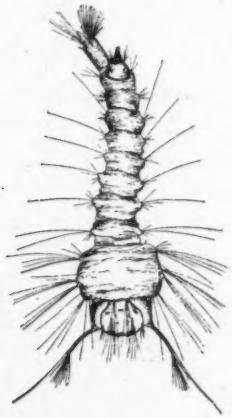
NOVEMBER, 1909.

ENTOMOLOGICAL NEWS

Vol. XX. No. 9.



Larva of Culex perturbans as described by Dr. John B. Smith.

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PHILADELPHIA:
ENTOMOLOGICAL ROOMS OF
THE ACADEMY OF NATURAL SCIENCES,
LOGAN SQUARE.

Entered at the Philadelphia Post-Office as Second-Class Matter.

ENTOMOLOGICAL NEWS

Published monthly, **excepting August and September,** in charge of the Entomological Section of the Academy of Natural Sciences, Philadelphia, and the American Entomological Society.

ANNUAL SUBSCRIPTION, $2.00 IN ADVANCE.

SINGLE COPIES 25 CENTS

Advertising Rates: 30 cents per square inch, single insertion; a discount of ten per cent. on insertions of six months or over. No advertisement taken for less than 60 cents—Cash in advance.

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Desiderata of North American Carabidæ

81a, 87a, 106*, 07*, 08, 09, 11, 13*, 15, 17*, 19a, 23a, 23b, 26, 31, 41, 44, 47, 48*, 51*, 54, 58, 61, 62, 63, 66*, 68*, 70*, 71, 75, 80*, 81, 82, 85*, 86*, 87*, 89*, 90, 96, 202, 03, 04, 09, 16*, 23, 29. 36, 38, 45, 46*, 47*, 49*, 50*, 52, 53, 56, 57, 60*, 63, 68, 70*, 72*, 76, 77*, 78, 79, 81, 82*, 91, 93*, 94*, 98, 99*, 301*, 03, 07a, 09*, 10*, 12, 23*, 28, 34*, 35, 36, 38*, 46, 50, 52a, 53, 54, 55*, 62, 63*, 68, 69, 76*, 77, 78*, 82*, 83*, 85*, 90, 93, 98, 99, 400*, 06, 09, 10*, 11, 18*, 19*, 22, 24, 25, 28, 29*, 30, 32, 36*, 37, 38*, 39, 42*, 43, 44*, 46, 47*, 51, 58, 60, 64, 69*, 74*, 77, 78, 79*, 80*, 88*, 89*, 90, 91, 93.

Offerata, rare species of North American Coleoptera. *Lack full set.

THE SNOW COLLECTIONS, University of Kansas, Lawrence.

ENTOMOLOGICAL NEWS

AND

PROCEEDINGS OF THE ENTOMOLOGICAL SECTION

ACADEMY OF NATURAL SCIENCES, PHILADELPHIA.

VOL. XX. NOVEMBER, 1909. NO. 9.

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Some new Wasps.

BY S. A. ROHWER, Boulder, Colo.

Lyroda cockerelli n. sp.

Male.—Length 8 mm. Clypeus rounded on the anterior margin; without teeth, slightly notched in the middle. Front finely closely punctured, appearing finely granular; the vertex with larger sparser punctures; no depressed line from the anterior ocellus; the third antennal joint distinctly longer than the fourth; dorsulum with rather close medium size punctures; scutellum and postscutellum shining impunctate; mesopleurae shining, almost impunctate; metanotum with a distinct longitudinal carina for the basal two-thirds; transversely crossed by many irregular striae; the lower part of the metapleurae impunctate, the upper part like the metanotum; the upper part of the posterior face with a distinct diamond-shaped area, bounded by strong ridges and longitudinally crossed by a furrow; the lower part of the posterior face with a strong longitudinal carina; femora rather robust; the third cubital cell wider on the radius than the second; the basal abdominal segments shining, the apical subopaque, closely, finely punctured. Entirely black; the clypeus and face with thick golden pubescence; the apical margins of the abdominal segments one to three with bright silvery pubescence; the two apical segments with fuscous pubescence. Wings hyaline, the apical margin strongly dusky; costa and stigma black, the other nervures pale brown.

Type Locality: Campus of the University of Colorado, Boulder, July 7, 1908. One female collected by T. D. A. Cockerell.

A very distinct species not closely related to any described

American one. The golden pubescence of the clypeus is a good superficial character by which it may be distinguished from other members of the genus.

Notogonia subaequalis n. sp.

Female.—Length 16 mm. Anterior margin of the clypeus rounded out, with a distinct semicircular notch in the middle; anterior part shining, impunctate, the upper part with close rather large punctures; there is no basal carina; palpi hairy, the apical joint of the maxillary longer than the preceding one and slender, slightly reddish. Antennae as long as the head and thorax, not longer as in *N. aequalis;* scape with a fairly distinct longitudinal carina beneath; the third, fourth and fifth antennal joints about equal; the fourth and fifth joints slightly constricted basally. The space between the eyes at the vertex about the same as the length of the third antennal joint. Head normal, the impression in front of the ocelli is very deep while the one behind them is not very deep; head very finely closely punctured, appearing dull. Dorsulum with distinct close, small punctures; there are no impressed lines on the dorsulum; the scutellum punctured like the dorsulum, not impressed; metanotum granular with a shallow longitudinal impressed line anteriorly; spiracles long linear not open; the posterior face separated from the metanotum by a transverse carina; the upper part of the posterior face is wrinkled, the rest is granular; a distinct longitudinal furrow on the posterior face; legs strongly spinose; the radial cell truncate; the third cubital cell broader on the radius than the second; the recurrent nervures almost meeting. Abdomen a little shorter than the thorax; dull above, shining beneath; the anterior segments very closely finely punctured, the two apical segments with large separate punctures; pygidium broad, the apex emarginate, the angles sharp and broad; sheath obtusely rounded at the apex, about twice as long as broad; pygidium covered with brown or black hairs or bristles. Entirely black; the upper part of the dorsulum with long glittering, scattered hairs; the two basal dorsal segments with silvery pile. Wings dark, not strongly iridescent, and in certain lights subhyaline; venation dark, weakening toward the apex; the posterior wings are not as dark as the anterior.

Type Locality: Fedor, Texas. One specimen, the type which is in the collection of G. Birkmann, was collected September 11, 1897, by G. Birkmann.

This species is close to *aequalis* Fox, but the flagellum is shorter, the metanotum is without a median carina, and the wings are strongly iridescent. The length of the antennæ is about the same as *N. nigripennis occidentalis* Vier., but the

third and fourth antennal joints are equal, and the dorsulum is without longitudinal impressed lines. The darker wings and the shape of the pygidium separate it from *N. argentata* (Bve.) which is found in the same locality. Of all the species described by Cameron (Biol. Centr. Am.) it is closest to *montezuma* (Northern Sonora, Mex.).

Astata asperiformis n. sp.

Male.—Length 7 mm. Middle lobe of the clypeus produced into a narrow sharp tooth. Front below the white mark punctato-reticulate; the white band and the inteocellar area shining, with a few scattered punctures; the area above the ocelli more closely sculptured; cheeks shining with a few irregular sculptured patches. The third and fourth antenal joints a little enlarged at the apex; the third joint somewhat longer than the fourth. Anteriorly the dorsulum is closely punctured, posteriorly more sparsely so and it is shining; scutellum punctured at the sides, the middle shining and almost impunctate, slightly impressed; mesopleurae granular. Metanotum finely reticulate, at some angles appearing obliquely striated at the base; at the apical middle there is a rather large, distinct triangular depression; metapleurae finely striato-granular. Legs normal, spines and spurs black. Radial cell shorter than the first cubital; the first cubital cell without a spurious nervure Abdomen shining. Color black; the abdomen bright red; a band beneath the eyes, tegulae, and two spots the wings *cream-colored;* wings hyaline the apical third dusky, venation brown. The head and thorax with pale pubescence.

Type Locality: Boulder, Colo. Three males collected Aug. 5, 1908 and July 20, 1908 (S. A. Rohwer); one male Ft. Collins, Colo., No. 1203 of the Agriculture College. The eyes in life are pea green.

This species seems to be closest to *aspera* Fox, but it is larger than that species, and there are two white spots below the tegulæ. In some respects it is like *elegans* Cresson, but the apical third of the wings are dark, and there is no white on the legs and the abdomen. It cannot well be the male of *montana* Cresson, because the pubescence is white, not black, and the scutellum is impressed.

Gorytes cockerelli n. sp.

Male.—Length 8 mm. Head rounded above; inner eye margins parallel; ocelli in a low triangle, the distance from one of the lateral ocelli to the nearest eye margin about the same as the distance from

one of the lateral ocelli to the anterior ocellus. Clypeus very slightly notched in the middle; the apical joint of the maxillary palpi distinctly shorter than the preceding one. Front and the vertex very closely granular, opaque; the cheeks shining very finely punctured. Antennae rather sparsely clothed with white hairs; the third joint a little longer than the fourth; the apical joints normal, the apical one about the same length as the preceding one. Pronotum slightly notched in the middle; dorsulum closely, finely punctured; the suture between the dorsulum and the scutellum strongly striolated; the scutellum more finely and sparsely punctured than the dorsulum, and separated from the postscutellum by a striolated furrow; mesothorax shining, with some fine punctures and some larger punctures intermixed. Enclosure of the metanotum distinctly defined, channeled by a longitudinal furrow, and the basal half with strong longitudinal striae; the posterior face with some large punctures; the metapleurae shining. Legs very weakly spined. The transverse cubitus of the hind wings interstitial with the transverse median. The first abdominal segment much smaller than the second, coarctate at the apex; the second segment subglobose, shining, with a few scattered punctures. The apex of the abdomen with two spines (it may be that there are normally three and that one of them is broken off); ventral plate not bifid. Color black; labrum, clypeus except two basal spots, face below the antennae, inner orbits almost to top of the eyes, spot below the eyes, base of the mandibles, scape beneath, line on the pronotum, tubercles, spot below the tegulae, line on the scutellum, an indication of a line on the postscutellum, a band on the first four abdominal segments (on the second it is interrupted into two elongate spots), bands on the second and third ventral segments (slightly interrupted medially), and lateral spots on the fourth ventral segment, *lemon-yellow*. Legs mostly yellow; four anterior coxae, trochanters and femora above black; posterior coxae mostly black; the posterior legs and a few spots on the intermediate pair ferruginous. Flagellum with a fulvous tinge beneath. Wings hyaline, radial and subradial area slightly clouded; venation brown, most of the stigma luteous. Sides of the thorax and the front with short white hair.

Type Locality: Campus of the University of Colorado, Boulder. Named for Prof. T. D. A. Cockerell who collected the single specimen July 27, 1908.

This is a very distinct species. In the shape of the first abdominal segment it is related to *bipunctatus* Say, but it is widely different from that species in the more abundant yellow markings. It does not exactly fit any of the genera defined by Dr. Ashmead, but is perhaps closest to *Hoplisus*.

Notes on the American Oribatid Fauna, with a List of Four Species of European Oribatidae Hitherto Unknown in This Country.

By H. E. Ewing, Urbana, Ill.

The oribatid fauna of North America in general appears to be distinct from that of Europe. Mr. Banks in his catalogue of the Acarina of the United States (Proc. U. S. Nat. Mus. Vol. XXXII, pp. 595-625) gives a list of eighty-four species known in this country and according to this author they are all peculiar to America. In the course of about three years collecting, being assisted by several other persons, I have found four species in this country which I give here below that are well known European forms, one of which is remarkable in being saltatorial.

Notaspis bipilis Herm., Mém. apt., p. 95.

In moss. Collected by L. M. Smith at Parker, Ill., and by the writer at Arcola, Ill. Several specimens.

Zetorchestes micronychus (Berl. and Can.), Berl. Acar. Myr. Scor. fasc. 4.

In trash. Collected by means of a Berlese funnel by C. R. Crosby at Columbia, Mo.

Hermannia bistriata (Nic.) Arch. Mus. Paris, Vol. vii, p. 397.

Under logs, in moss and in trash. Collected by C. R. Crosby at Columbia, Mo., by J. Douglass Hood at Urbana, Ill., and by the writer at Arcola, Ill.

Tegeocranus velatus Michael, Jour. Royal Mic. Soc., Vol. iii, p. 189.

In moss. Collected by the writer at Muncie, Ill.

The first of these species, *Notaspis bipilis* Herm., is closely related to *Oppia spinipes* Banks and *Oppia montana* Banks, but the author has compared the specimens with a named specimen sent him by Mr. A. D. Michael and finds that they agree in every respect with *N. bipilis* Herm. This species has a wide distribution having been found before now in many places in Europe, in Siberia and in the arctics. Its habitat is exclusively in moss.

The second species, *Zetorchestes micronychus* (Berl. & Can.) is very remarkable in that the last pair of legs are enlarged and fitted for jumping. This is the only known oribatid which has that power, which is made possible by the peculiar structure of the fourth pair of legs and the large and powerful abdominal muscles. Already this species has been recorded from Italy, Switzerland and Algeria; the authors' record making it known to three continents. I have but a single specimen of this species sent me by Mr. Crosby but it is well preserved and agrees excellently with Canestrini's and with Michael's figures, and since so many parts of its structure are so characteristic I feel confident of the determination.

The third species, *Hermannia bistriata* (Nic.) appears to be quite common in central Illinois and at Columbia, Mo., as I have dozens of specimens from both these places. This species has a general distribution in Europe. According to Michael the imago is terrestrial, on moss, while the nymph is amphibious on land moss or Sphagnum. I have found the adults quite common under old logs, as well as in moss.

The fourth species, *Tegeocranus velatus* Michael, has only been found in England before now, where it lives in moss. This is the situation in which the author has found it.

Mr. A. D. Michael in 1898 (Das Tierreich, Lief. 3., Oribatidae), reviews the Oribatidae, giving a list of 198 known, good species. Since that time fully one-half as many more have been added making the total number of known Oribatidae now near 300 species. Of the 198 species described by Mr. Michael, 160 are known in Europe where the Oribatidae, as well as the other Acarina, have been much better worked up than in the rest of the world. Up to the present time the writer has in his collection 93 species of Oribatidae, the most of which have been collected in Illinois, Indiana and Missouri. Judging from the great number of species met with in this area I would infer that the total number of North American species must be at least somewhere in the neighborhood of 300.

It is a remarkable fact that while over 90 per cent. of the species found in this country are new, yet only two genera are peculiar to this country. The American fauna differs from that of the old world also in the much greater percentage of smooth species. In this country at least 70 per cent. of the species have a smooth, shiny integument, while in the old world the numbers of smooth and of rough or sculptured species are almost equal. The causes for this difference are not known. Here are some suggestions which may possibly account for such an apparent difference in the faunae of the two continents.

1.—That the shiny species are much more easily seen because of their reflection of light from the surface of the integument, and that a more complete search in this country will reveal many more rough species here.

2.—That there is something peculiar or favorable in our climate or in the vegetation upon which the mites feed that causes a larger percentage of smooth species.

3.—That most of the shiny species were originally indigenous to this country and that most of the species that there are in Europe of this kind have been largely introduced from America, where the shiny species, or some of the most important genera including these species, have had a long continued history and consequently a greater chance for the production of new species.

In regard to the first factor there is but little doubt but that it plays an important part in the apparent difference of our fauna from that of Europe. I have found that in the case of my collection that it was over a year before I discovered a single rough species. Since that time a careful watch and search has revealed nearly two dozen of these.

In regard to the second cause, little is known as present due to our unfamiliarity with their food habits.

The third mentioned cause has some evidence in its support for it is true that the increased percentage of smooth species in this country is largely due to the large number of the abdominal-winged forms here, which already number over 40 species.

It may be added in closing that the rough species, as those of the genera *Nothrus, Neoliodes,* etc., are very sluggish in their movements and for this reason are not noticed as quickly as the more active, shiny ones. Further records will doubtless soon settle some of these interesting questions.

Ticks on the California Ground Squirrel.

By Wm. B. Wherry and F. Creighton Wellman,

Cincinnati, Ohio, and Oakland, Cal.

The important role played by a California ground squirrel (*Otospermophilus beecheyi*) in the epidemiology of plague in the United States makes a study of its parasites of particular interest. During June, July and August we found these rodents to be heavily infested with ticks which occurred in greatest numbers about the neck and ears. Specimens were sent to Mr. Nathan Banks who has kindly given us the following preliminary report: "There were two species of ticks; one specimen is a common species in California known from many hosts—*Dermacentor occidentalis* Neum.; the other specimens represent a new species of Ixodes, which I shall describe as *Ixodes aequalis.* It is related to the *I. augustus* of Washington and Alaska, but has a larger and shorter shield, and minor differences."

The Entomological Society of America will meet in Boston on Thursday and Friday, December 30th and 31st. The members and visiting entomologists will be the guests of the Cambridge Entomological Club at a smoker. There will also be a special exhibit covering all branches of entomology. More particulars of the meeting will be given later. All entomologists should make it a point to attend.

The twenty-second annual meeting of the American Association of Economic Entomologists will be held in Boston, on Tuesday and Wednesday, December 28th and 29th. This promises to be a very large meeting. The president this year is Dr. W. E. Britton, of Connecticut, who will preside.

Notes and Descriptions of Some Trypoxline Wasps.

By S. A. Rohwer, Boulder, Colo.

GROUP FRIGIDUM.

The group of Trypoxline wasps of which *frigidum* F. Sm. may be taken as the type consists of small (about 8 to 11 mm.), slender, black, little pubescent species. There is no enclosed area on the metanotum, but in some species there is a strong central furrow; the hind trochanters of the males are simple. The following table will separate the species which are known to belong to this group:

Females . . . . . 1.
Males . . . . . 4.
1. Metanotum without a median furrow (clypeus with a narrow tooth which is sometimes bidentate) . . . . . **frigidum** F. Sm.
Metanotum with a strong median furrow . . . . . 2.
2. Clypeus regularly rounded on the anterior margin . . . **regulare** Vier.
Clypeus with a broad slightly emarginate tooth . . . . . **apicale** Fox.
Clypeus with a narrow tooth . . . . . 3.
3. Striae of the metanotum almost transverse; first abdominal segment but little longer than the second, and with a much shorter petiole; dorsulum with distinct punctures; shining. **nigrellum** Roh.
Striae of the metanotum mostly longitudinal; the first abdominal segment about twice as long as the second, and with a long petiole, nodose at the apex; dorsulum opaque, very closely and finely punctured . . . . . **bidentatum** Fox.
4. Metanotum with a distinct middle furrow (the clypeus with a narrow bidentate projection) . . . . . **bidentatum** Fox.
Metanotum without a distinct median furrow . . . . . 5.
5. Dorsulum shining, with scattered punctures; no furrow from the anterior ocellus . . . . . **subfrigidum** Roh.
Dorsulum opaque, with very fine close punctures; a distinct furrow from the anterior ocellus . . . . . **frigidum** F. Sm.

Trypoxylon frigidum F. Smith.

I have collected this species from the following localities in Colorado: Florissant, June 11 to July 24, most of the specimens were collected on the foliage of *Ribes vallicola;* one female Boulder, September 24, 1906; one female Troublesome, June 8, 1908, altitude 7345 feet.

Fox (Tr. Am. Ent. Soc. XVIII, p. 143, June, 1891) gives the

distribution of this species as follows: "Hudson's Bay (Smith) to Virginia, westward to Mt. Hood, Oregon." From the above distribution this species may be said to belong to the Boreal and Transition Life zones. H. S. Smith records this species from Glen, Sioux Co., Nebraska, which is in the Upper Sonoran Life zone.

The clypeus sometimes has the tooth bidentate, in the females however it is usually entire. The sculpture of all the specimens before me is the same. The first abdominal segment is not twice as long as the second, and is not strongly nodose at the apex.

Trypoxylon subfrigidum n. sp.

Male—Length. 5 mm.; very slender. Anterior margin of the clypeus with a narrow bidentate tooth, the lobes of which are acute. The space between the eyes at the top about twice as great as the space between them at the clypeus. Front very finely granular; the vertex with fine close punctures; there is no impressed line from the anterior ocellus, but the anterior ocellus is in an indistinct pit. Apical antennal joint tapering, slightly curved, as long as the three preceding joints combined; third antennal joint about the same length as the fourth, perhaps a little longer. Dorsulum with distinct scattered punctures. Pleuræ similarly punctured, the suture straight and deep. Scutellum sculptured like the dorsulum, not impressed. Metanotum rugose to striato-granular, the striæ mostly longitudinal, but slightly oblique; there is no impressed median furrow. Metapleuræ shining, finely striated; posterior face granular, with a deep furrow. Legs without spines. The first abdominal segment but very little longer than the second, and but slightly nodose at the apex. Color, black; palpi, pale; tegulæ and fore tarsi brownish; spurs pallid. Wings hyaline, the apical margin dusky, iridescent; venation black.

Type locality: Fedor, Texas. Described from one male collected by G. Birkmann, May 1, 1904.

This species is closest to *frigidum*. Besides the character given in the foregoing table it may be separated from *frigidum* by the longer second abdominal segment, and the brownish tegulæ.

Trypoxylon bidentatum Fox.

I have seen a female of this species from Boulder, Colo., September 14, 1906 (S. A. Rohwer). Fox (loc. cit. p. 143)

says this species occurs with the preceding (*frigidum*). In all the collecting at Florissant no *bidentatum* has been found while *frigidum* is very common.

Trypoxylon nigrellum n. sp.

Female—Length 7 mm.; slender. Anterior margin of the clypeus produced into a narrow bidentate tooth, the lobes of which are short and obtuse. Space between the eyes at the vertex not twice as great as the space between them at the clypeus. Front rather coarsely granular; the vertex with small close punctures. Third antennal joint a little shorter than the fourth; the antennæ slightly thickened toward the apex; the apical joint somewhat longer than the preceding. Dorsulum and the scutellum shining, with distinct, scattered punctures; the scutellum not impressed; the punctures on the pleuræ more separated than on the dorsulum, the suture deep and strong. Metanotum with transverse striæ (some of the striæ are oblique), there is a strong medial furrow; metapleuræ rather strongly obliquely striated; the posterior face granular or slightly striato-granular, with a deep median furrow. The furrows of the metanotum and the posterior face are not connected. The posterior tibiæ with a few feeble spines. The first abdominal segment but little longer than the second, and not strongly nodose at the apex; the second segment a little more than twice as long as the width at the apex. Black; palpi pale brown; tips of the mandibles and the tegulæ testaceous; spurs pallid. Wings hyaline, the apex not distinctly dusky, iridescent; the venation black.

Type locality: Lee County, Texas. Two females collected by G. Birkmann May 3, 1906, and April, 1907. The specimen collected April, 1907, was chosen as the type.

Besides the characters mentioned in the foregoing table this species differs from *bidentatum* Fox, its nearest ally, in the distinctly striated metapleuræ (the metapleuræ of *bidentatum* are shining and not distinctly sculptured).

Trypoxylon apicale Fox (Tr. Am. Ent. Soc., xviii, p. 143, 1891).

"Occurs in Canada and at Beverly, Mass."

Trypoxylon regulare Vier. (Tr. Am. Ent. Soc., xxxii, p. 205, July, 1906).

Douglas County, Kansas, altitude 900 feet.

GROUP EXCAVATUM.

Large, shining black species, as a rule not densely pilosed; the hind tarsi white; the wings fuscus or hyaline; no enclosed area on the metanotum, which is punctured or transversely

striated; the hind trochanters of the male are simple. This group may be separated from group *albitarse** by the paler wings, the pale pubescence, the absence of a hoop on the second ventral segment of the male, and the different clypeus of the female. The following table will separate the species of this group as far as they are known:

Head and thorax with dense silvery pile (scutellum impressed medially; the apex of the metanotum transversely striated; prothorax bispinose beneath). Cuba, Jamaca, Ill., N. Y.

excavatum F. Sm.

Head and thorax without dense pile, but with long hair . . . . . 1.

1. Metanotum, except the base, transversely striated; a patch of silvery pile below the tegulae. Mexico and Guatemala.

cinereum Cam.

Metanotum punctured, the apex sometimes with transverse striae; no silvery pile below the tegulae . . . . . 2.

2. A narrow transverse sulcus on the pronotum.

albopilosum albopilosum (Fox).

A broad, deep shining sulcus on the pronotum.

albopilosum planoense Roh.

Trypoxylon albopilosum albopilosum (Fox).

The scutellum of this species is not always impressed nor is there always an impressed line on the front. Specimens from Lee County, Texas, have the wings somewhat darker than specimens from Virginia. The distance between the eyes at the clypeus is sometimes slightly less than the distance between them at the vertex. This species seems to belong to the Carolinian and Austroriparian faunal areas.

Trypoxylon albopilosum planoense n. subsp.

Female.—Length 18 mm. This form may be separated from *albopilosum* proper by having the clypeus similar to it but the emargination much shallower; the ocellar area is more closely punctured; the suture on the pronotum is broad, deep and shining; the scutellums are not impressed; the apical middle of the metanotum is not impressed nor striated, but punctured like the rest of the metanotum.

Type locality: Plano, Texas. Described from one female collected by E. S. Tucker June, 1907. The type is in the U. S. National Museum.

*It seems quite probable that *neglectum* Kohl is the male of *albitarse*.

Mr. E. S. Tucker sent this form to me asking if I thought it was a new species. After comparing it carefully with *albopilosum* I think it is only a sub-species separated by the above characters. Prof. T. D. A. Cockerell found the bee-fauna of Plano included both humid and arid region species, (Can. Ent. p. 129, April, 1909). May not *planocnse* be the arid region form of *albopilosum*?

Trypoxylon spinosum Cameron.

I have seen two males and two females of this species from Lee County, Texas, which were collected by G. Birkmann. The sides of the first abdominal segment in the male are reddish, the anterior tarsi are also reddish, and the pubescence is slightly golden.

The female is much like the male. It is close to *rufozonale* Fox, but differs in having the eyes farther apart at the vertex than at the clypeus, the pubescence has a golden tinge, and the tarsi and bases of the posterior tibiæ are fulvous.

Trypoxylon aureolum n. sp.

Female.—Length about 16 mm. Anterior margin of the clypeus with a deep notch in the middle; the clypeus is as long as wide. There is a very faint carina between the antennae above; front with close punctures, the ocellar area with smaller, closer punctures and appearing granular. Behind each lateral ocellus is a transverse ridge, these ridges do not meet in the middle. The third antennal joint is about as long as joints four and five. Pronotum is rounded, without a transverse sulcus, shining, and very sparsely punctured. The dorsulum and scutellum have distinct, separated punctures, those of the scutellum are somewhat closer than those of the dorsulum; the scutellum is slightly impressed; the metapleurae are shining, and more sparsely punctured than the dorsulum. The metathorax with a faintly defined enclosed area, the apex of which is transversely striated; the posterior face with a distinct median sulcus; the entire metathorax is rather closely granular or is so closely punctured as to appear granular. The legs are without spines; the posterior trochanters have a small hump beneath. The first abdominal segment is not quite twice as long as the second and is about the shape of *rufozonale* (Tr. Am. Ent. Soc. XVIII, pl. III, fig. 13); the second segment is not raised at the apex and is not twice as long as wide at the apex. Color black; tegulae brownish; all the tibiae and tarsi, and the first two abdominal segments reddish or brownish. The usual places with dense golden

pubescence; the abdomen with golden pile. Wings slightly yellowish, the apical margin dusky; venation pale brown.

Male.—The male differs from the female as follows: The clypeus with a very short, broad projection which is slightly emarginate, and a short tooth in the center of the emargination; the scutellum is more strongly impressed; at the lateral, posterior margin of the metanotum is a short, longitudinal ridge; the posterior trochanters have a strong spine beneath; the two basal joints of the flagellum are fulvous, and the abdominal segments are darker.

Type locality: Lee County, Texas. Two females and two males taken by G. Birkmann. The females May, 1908, and the males August 8, 1905.

This species is close to *texense* Sauss., but the abdomen is darker, the first and second abdominal segments of the male are not the same length, and the first abdominal segment is more strongly raised at the apex. The female differs from Fox's description (Tr. Am. Ent. Soc. XVIII, p. 146, 1891) in having the antennæ black at the base, and the enclosure of the metathorax is not finely striated. Fox says the clypeus of *texense* is like *spinosum*. If this is the case the shape of the clypeus of the female will at once distinguish this species. The hump on the posterior trochanters of the female may prove a useful character.

Trypoxylon relativum n. sp.

Female.—Length 13 mm. Anterior margin of the clypeus with three emarginations, the two lateral ones shallow and with broad, obtuse lobes, the middle one deep and with a tooth in the notch. A faint indication of a carina between the antennae above, a faint impressed line from the anterior ocellus. The distance between the eyes at the top a very little greater than the distance between them at the clypeus. The third antennal joint is not quite as long as joints four plus five; the apical joint is longer than the preceding. The thorax differs from *aureolum* in not having the scutellum impressed, and in having the sides of the metanotum wrinkled. The second abdominal segment is a little more than twice as long as wide at the apex. Color as in *aureolum*.

Type locality: Fedor, Lee County, Texas. One female collected May 12, 1905, by G. Birkmann.

This species is very close in general appearance to *aureolum*, but the clypeus is very different and the thorax offers some differences.

Regarding Mr. Verrall's Criticism of my "Glossary of Chaetotaxy."

By W. R. Walton, Harrisburg, Pa.

First allow me to acknowledge my great indebtedness to Mr. Verrall for his very complete criticism of my paper. It is of special value at this time in view of the fact that the paper is about to be reprinted as part of a bulletin of the Division of Economic Zoology of the State of Pennsylvania, through the kindness of Prof. H. A. Surface.

Then I wish to assure him of my hearty endorsement of one of his closing remarks, to wit: "the Glossary should be revised and considerably developed * * * before it can be accepted as a standard."

I certainly never expected the work to be "accepted as a standard," but offered it simply as a help to those, who like myself, have had difficulty in grasping the chaetotactic characters unaided by sufficient illustrations.

Dean Swift's saying that "fools rush in where angels fear to tread" just about expresses my position in the matter, but if my poor paper has but the effect of stimulating some such able dipterologist as my distinguished critic seems to be, through any motive whatsoever, toward producing a more complete, accurate, better illustrated work, I shall feel that my effort has not been in vain.

I regret exceedingly that it is my misfortune never to have seen a copy of his "British Flies" and if any work of his contains terms which should have been included in my paper, I sincerely hope he will pardon the oversight as being unintentional.

As chaetotaxy reaches its highest state of usefulness as applied to the Muscoidean flies my critic is quite right in supposing that the paper seems to have been compiled for the use of Tachinologists. However, I realize now that the title of the paper is entirely too pretentious. It should have been more brief and to the point. The writer regrets exceedingly that he has no direct knowledge of the German literature re-

lating to the subject under discussion, but has been compelled by force of circumstances to make his compilations almost entirely from the works mentioned in the bibliography accompanying the paper.

As to the use of the term Calypteres, it is used throughout the works of Mr. D. W. Coquillett who evidently prefers it above all others. The following definitions are taken directly from Dr. S. W. Williston's "Manual of the North American Diptera;" Front, Peristoma or Epistoma, Propleura (Fig. 8, page 32). Pteropleural bristles, Trichostical bristles, Williston's spelling and Metapleura.

Peristoma-ium is taken from Dr. J. B. Smith's "Glossary of Entomology."

The following are defined and used in the works of Dr. Garry de Nord Hough, Gena, Genovertical plate, Transfrontal bristles, also the names for the bristles and surfaces of the legs.

It seems difficult to understand why Mr. Verrall, who appears to be a thorough student of the literature, should profess entire ignorance of Dr. Hough's papers.

The definition given for Ocellar pair is Osten Sacken's word for word. Mr. C. H. T. Townsend fathers the term Parafacial.

The writer offers no apology for having accepted as authority the works of such men as are mentioned above. Their writings will undoubtedly still be useful long after most of us have been converted to a few handfuls of dust.

Preapical Bristles:—My critic apparently overlooks the fact that the figure on Pl. XV shows both femoral and tibial preapical bristles.

Wings:—Mr. Verrall's comment under this head seems to me to have gone wide of the mark. The figure shown is plainly marked "wing of *Calliphora viridescens.*" The terms given thereon may not indeed agree with those preferred by certain students of phylogeny but this does not alter the fact that they are the terms that have been generally used in descriptive writings for the past generation or longer. They are

also in use at the present time and, fortunately or otherwise, we have to "live in the present" and can but dream of the future.

In his remarks on the homologies of the veins Mr. Verrall takes me to task for neglecting the works of American students of that subject.

I cannot see that the subject comes within the scope of so limited a paper as the one under discussion. But if he insists I would respectfully call his attention to the following paragraph which occurs in Dr. S. W. Williston's "Manual of the North American Diptera" edition of 1908, page 41, to wit: "A third system is that proposed by Comstock and Needham about ten years ago, but which has found practically no acceptance among dipterologists, with the exception of one or two American writers."

The student will find abundant material for rumination in the writings of the authors above mentioned.

Legs:—Under this heading I am called to the bar for neglecting to define such terms as front, middle and hind legs. If one were writing of centipedes I believe there would be some justice in such a complaint, but as most insects of my acquaintance possess only three pairs of legs it seems superfluous to define them. Besides it occurs to me that the student of entomology who has not mastered these elementary terms will have no use for the paper under discussion.

Now as to the numerous misprints, flaws, misspellings, etc., which occur in my former paper:

I fear they must all be charged to me personally, though I confess some qualms at "Peteropleura."

Finally I would say that while Mr. Verrall's criticism is most welcome, I must reaffirm the hope that the "Glossary of Chaetotaxy" may still prove useful, especially to beginners and possibly even to some advanced workers in our favorite study, Dipterology.

THE Newark Entomological Society celebrated its twenty-fifth anniversary on October 10th at Turn Hall, Newark. About fifty persons were present at the banquet and the affair was a very enjoyable one. The Society is flourishing and very active.

Two new Philippine Culicidae.

By Frederick Knab, Washington, D. C.

Mansonia chrysogona n. sp.

Integument ocher-yellow, the vestiture nearly throughout of golden and yellow scales.

Female.—Proboscis moderately long and stout, uniform, about as long as the abdomen, clothed with deep yellow scales, the tip black. Palpi about one-third the length of the proboscis, with many hairs and clothed with shining deep yellow scales, the tips black. Clypeus ochreous brown, nude. Antennae with the tori small, ochreous marked with brown; second joint yellow, the succeeding ones brownish. Occiput clothed with narrow curved golden scales and bearing many golden bristles, the vertex with deep yellow, long, erect, forked scales.

Mesonotum ocher-yellow with broad, brown, double median stripe and a brown patch over the roots of the wings; the vestiture dense, of narrow curved golden scales, with three narrow longitudinal furrows medianly; antescutellar space bare. Scutellum with scales like those of the mesonotum and with a group of golden bristles on each lobe. Pleura yellow marked with brown, with yellow setae and a few pale scales.

Abdomen cylindrical, truncate at the tip, the segments with apical rows of yellow hairs, the tip with numerous yellow bristles; the integument ocher-yellow, the vestiture above and below of broad, deep yellow, shining scales.

Wings hyaline, the scales along the veins shining ocher-yellow, narrowly lanceolate; stem of the second marginal cell about as long as the cell; base of the second posterior cell nearer the base of wing than the base of the second marginal cell; basal cross-vein more than its own length behind the anterior cross-vein. Halteres yellow.

Legs slender, clothed with yellow shining scales; hind legs with the apices of the femora and the bases and apices of the tibiae black; hind tarsi with the apical half of the second and all the succeeding joints brownish with yellow luster. Claws equal and simple.

Length: Body 4.5 mm., wing 5 mm.

Male.—Coloration similar to the female. Palpi long, exceeding the proboscis by nearly the length of the last joint; last two joints and apex of the long joint somewhat thickened and clothed with numerous long yellow hairs; vestiture yellow, the last two joints and the apex of the long joint dark scaled. Antennae densely plumose, the hairs brownish and golden. Abdomen depressed, broadened behind the middle; the lateral ciliation abundant, rather long, yellow. All the femora with dark apices; tarsi of all the legs brownish.

Claws: 2.0-2.0-0.0. Length: Body 4.5 mm., wing 4 mm.

Locality: Parang, Mindanao (May 31, 1906).

Type: Cat. No. 12,626 U. S. National Museum. Three specimens, 2 females, 1 male.

This species has been recorded from the Philippines by Ludlow under the name *Chrysoconopas aurites* in the belief that it is identical with *Taeniorhynchus aurites* Theobald. Theobald's species was described from Africa and specimens from that continent, undoubtedly identical, are before me. In *aurites* the vestiture of the mesonotum is coarse and suberect while in *chrysogona* it is much denser and closely appressed; *aurites* shows two longitudinal, broad, bare stripes on the dorsum of the mesonotum while in *chrysogona* there is hardly a trace of such stripes.. In the African species the first three tarsals of the hind legs are white with black apical bands while the Philippine species shows no banding; the apical bands of the hind femora of *chrysogona* are absent in *aurites*. The new species appears to come nearest to Theobald's *Taeniorhynchus ochraceus* from the Malay Peninsula; *ochraceus*, however, is said to have black forked scales on the nape, while in *chrysogona* these scales are yellow.

Taeniorhynchus aurites and related forms have been placed by Theobald in Goeldi's genus *Chrysoconops*. This genus is founded on *Culex fulvus* Wiedemann, a species of *Aedes* (*sensu* Dyar and Knab) with toothed claws and pointed abdomen in the female. *Aurites* and *chrysogona* are undoubtedly species of *Mansonia* in spite of the striking difference in appearance. The male genitalia of *Mansonia chrysogona* correspond in every way with those of the American *Mansonia perturbans* Walker and only show slight differences, of specific value in the details. In the female the claws are simple, the abdomen blunt. The eggs are laid in a raft while in *Aedes* they are laid singly.

Aedeomyia catasticta n. sp.

Female.—Proboscis black scaled, a white ring at the middle and a small white spot a short distance behind it; a broad white ring close to the apex. Palpi short, black scaled with white apices. Clypeus

clothed with flat white scales. Occiput clothed with roughened and erect broad scales, those in the middle and along the margin of the eyes creamy, those at the sides and on the vertex mostly black.

Mesonotum clothed with broad, ocher yellow, brown and creamy white scales; the yellow scales form a median stripe in front which broadens out at the middle; behind and at the sides the brown scales predominate; the white scales form indistinct wavy lines and there is a white patch in front of the yellow stripe. Scutellum yellow and white scaled with a tuft of black scales on each lobe. Abdomen dark scaled above, the segments with ill defined, median, apical patches of yellow scales and lateral, white, oblique marks; venter black, marked with white.

Wing vestiture black, yellow and white intermixed, the yellow scales most abundant along the costa and outwardly on the veins, the white mostly disposed in spots; there is a white spot on the costa a third from the base and continued irregularly across the wing veins, a smaller one close to the base of the wing; two-thirds from the base is the largest costal white spot, continued by white patches at the bases of the cells of the second and fourth veins and by a yellow patch upon the third vein; a small, white, costal spot towards the apex of the wing; the apices of all the veins, except the lower branch of the fifth, are white scaled and there is a white spot on the third vein in line with the outer spot of the costa.

The legs are black scaled spotted with white upon the femora, tibiae and first tarsal joints; the black scales mostly show yellow at their bases; the hind tarsi have the first and second joints white ringed at bases and apices, the last three joints white, the third and fourth with black rings close to the apices. The middle and hind femora are distinctly tufted at their apices, the front ones less markedly so. Claws simple. Length: Body 3.5 mm., wing 3 mm.

Localities: Samal, Bataan; Parang, Mindanao.

Type: Cat. No. 12,627, U. S. National Museum.

This species much resembles *Aedeomyia squamipennis* Arrib. but differs in many details and these differences appear to be constant. In *squamipennis* the proboscis has a broader white ring and the spot behind it is larger and yellow while the apical white ring is very narrow. In *squamipennis* the palpi, besides the white apex, have a large yellow patch in the middle. On the mesonotum the ocher-yellow scales are distributed nearly over the entire surface and the white spots on the wings are much smaller than in the Philippine species. The male genitalia of the two species show specific differences.

Notes on the Eggs of Epagoge sulphureana Clemens.

By R. L. Webster, Ames, Iowa.

In some cages in the insectary at Ames last year, some little data was obtained on the number of eggs deposited by a single female moth of *Epagoge sulphureana* Clemens. The larvae of this species were found at Charles City, Iowa, on August 5, 1908, on apple nursery stock, and a supply of them was sent to the insectary to rear. When the moths appeared, two insectary cages, large glass jars covered with gauze, were set up with a single male and female in each cage, in order to determine the number of eggs deposited by one female moth. The eggs were laid on the sides of the glass jar and the following data was secured:

Experiment A, 1 male and 1 female.

Cluster	Number of eggs	
1a	31	
1b	34	
2	40	
3	21	
4a	38	
4b	12	
5	37	
6	12	
7	19	
8	12	
Scattering eggs	5*	
	2*	
Total eggs,	263	Range, 12-40
		Average, 25.6

In the case of the clusters 1a, 1b, 4a and 4b, the separate figures indicate two depositions on different nights, and these are regarded as distinct clusters. The scattering eggs, marked with a *, are not included in computing the average number of eggs to a cluster.

Experiment B. 1 male and 1 female.

Cluster	Number of eggs	
1	28	
2	24	
3	20	
4	26	
5	29	
Scattering eggs	4*	
Total eggs,	141	Range, 20-29 Average, 27.4

In this case the male moth died a few days after being placed in the cage, and the female made her escape, so that the figures for the whole number of eggs are doubtless not so high as they might be under other circumstances.

I am indebted to Mr. August Busck for the determination of the adult moths.

Three New Bees of the Genus Anthophora.

By Myron H. Swenk, University of Nebraska, Lincoln.

Anthophora nebracensis n. sp.

♀.—Length 12 mm. Pubescence of vertex and thorax above whitish with blackish hair intermixed. Hair of cheeks and face white. Joint 3 of antennae about equal to 4-6. Mesothorax opaque, minutely reticulated. Third submarginal cell not narrowed above, wings clear, nervures brownish black, tegulae testaceous. Abdominal segments dorsally almost nude, 4 with short black hair, 2-4 with narrow but distinct white fasciae, apex of 5 with a fringe of dense black hair, ventral segments 1-5 with white apical fringes, 4 and 5 with white lateral fringes. Legs black, except the rufous terminal tarsal joints, clothed with pale pubescence except the anterior tarsi which have rusty and black hairs intermixed, the inner side of the middle metatarsi which have dusky rufous hair, and inner side of posterior metatarsi which have black hair and terminate in a large posterior apical black brush. Intermediate spurs heavy, translucent testaceous, straight, finely ciliate on inner margin.

Type: Warbonnet Canyon, Sioux Co., Nebraska, July 23, 1901, on *Monarda fistulosa* (M. A. Carriker) 1 ♀.

From *A. affabilis* this species may be known by its shorter third antennal joint and dark thoracic hair; from *A. simillima montana* by its black thoracic hair and distinct narrow white fasciae; these species flying in the same region at about the same time.

Anthophora fumipennis n. sp.

♀.—Length 14 mm. Closely related to *A. abrupta* Say., but differing in having the whole of the first and medially the anterior half of the second abdominal segments with pale hair (in *abrupta* only the basal truncation of the abdomen has pale hair) and the wings very much darker, quite smoky. Thorax, abdomen as above described, and vertex with pale ochreous hair, pubescence elsewhere black.

Type: Cass County, Nebraska, 1 ♀.

This form needs no comparison with any species except *abrupta,* of which it may possibly prove to be a variety.

Anthophora scutellaris n. sp.

♀.—Length 13-14 mm. A representative of the *bomboides* group, apparently closely related to *A. stanfordiana* Ckll., but differing in having the apical portion of the first and the whole of the second and third abdominal segments with their dorsum covered with pale yellowish fulvous hair (in *stanfordiana* only the second segment, except base, and the hind margin of third segment bears pale hair), the labrum with black hair, no long pale hair on the ventral surface of the fourth and fifth abdominal segments, the legs all black or blackish and covered with black hair, the wings only slightly darkened, the black hair of the scutellum and metathorax sometimes encroaching anteriorly upon the disk. Also very close to *A. neomexicana* Ckll., but easily separated by having the hair of the scutellum black and of vertex also largely black.

Type: Sioux Co., Nebraska (L. Bruner) 1 ♀.

Paratype: Warbonnet Canyon, Sioux Co., Nebraska, June 27, 1901 (J. C. Crawford) 1 ♀.

This is the form from Sioux Co., Nebraska, referred to by Professor Cockerell in his original description of *A. neomexicana,* to which species he referred it (Ann. Mag. Nat. Hist. Ser. 7, Vol. v, pp. 408-409, May 1900), but there appears to me no good reason for not considering it perfectly distinct.

Marching Through Georgia.

By Charles Dury.

Starting June 1, 1909, from Cincinnati for that Terra incognita, the mountains of N. E. Georgia, my itinery was to go to Blue Ridge and from that point to walk across through the mountains to Clayton in Rabun County, about seventy-five miles. There to meet William Davis and Charles Leng, of N. Y., make Clayton headquarters for trips in all directions in search of desirable insects of all orders. Arriving at Blue Ridge June 2, it rained, or rather poured, for thirty-six hours without intermission. The creeks were all on the rampage. And while the swimming was fairly good, the walking was dreadful. So I rode to Blairsville, a distance of twenty-six miles, with the mail carrier. The roads were a curiosity in their vileness, an object lesson for road makers. With tons of good macadamizing material laying around, the chuck holes were so many and so deep that it was dangerous to haul even an empty wagon over them. I arrived at Blairsville soaked with water and covered with mud. So far not an insect except a few *Acanthia* that had taken up their abode in the bed I occupied at Blue Ridge. In return for their attentions, in the way of bites, I bottled as many of the bunch as I could catch.

At Blairsville I laid up a day for repairs and washed such of my garments as I could spare and yet keep within the bounds of propriety. I hung these out (in the rain) to dry! Of the eighteen days spent on the trip, it rained sixteen, at least a shower, each day. My outfit for this tramp consisted in a haversack, containing three cyanide bottles, a few small cork-lined boxes and a folding butterfly net, and for a change of clothing, a shirt and pair of socks, and I carried my collecting umbrella. On the morning of June 4 I walked to a place called Young Harris (12 miles) where I arrived at noon. The only insects found en route were a few common beetles and Diptera. Lepidoptera and Hymenoptera were very scarce. The birds observed and noted were mostly common

species, and the "Bob White" was everywhere abundant. Mocking birds were very few. June 6th, taking a guide, I climbed to the top of "Brasstown Bald," the highest mountain in Georgia (4768 feet high). Insects scarce, not a *Cychrus* was seen. A few *Michthysoma heterodoxum* were running, ant like, over the oaks, and some *Corymbites trivittata* were taken flying about. The flora on the top of this mountain is very curious and interesting. The laurels, rhododendrons and azaleas were in perfect bloom and their huge masses of bright colored flowers beautiful in the extreme. The oaks are low, gnarled and crooked, telling very forcibly of their struggle for existence on this wind swept, rocky mountain top. On this date, June 6, their foliage was not fully out. The tender leaves were being eaten up by swarms of "Rose chafers" (*Macrodactylus subspinosus*). The night of June 6th was spent in a hole in the rocks where we slept on a bed of green ferns. At dusk a ruffled grouse drummed his curious muffled love notes, and at day break the ravens sounded their dismal croak. The snowbirds (juncos) were breeding, the males singing their simple cheerful song. Rose-breasted grosbeaks, summer and scarlet tanagers, were also nesting, the males in full plumage and song. The insect collections made were very meagre and disappointing, caused I think by the fires which had swept these mountains, the year before and the cool wet weather. *Cicindela unipunctata, patrucla* and *sex-guttata* were abundant, as was also a pretty little *Anthrax* fly near *argyramoeba.* A few deer and wild turkeys yet find refuge in these mountain solitudes, we saw traces of both. Reptiles were scarce, but few snakes were seen, none of them venomous. June 8th I walked to Visage, Ga., about nineteen miles, taking a trail through Crow Gap. A beautiful walk, if it had not rained. However when it poured too hard, I opened my umbrella and put in the time digging *coprophagus Scarabaeidae,* from piles of animal droppings along the road. Of these ill flavored beetles, I took ten species in this manner. June 10th, rain threatening, I stopped at a house on the road. It poured, so I remained over night, in a bed full of fleas. I captured

nine under my pillow next morning! When I examined my bed I found there were "bed bugs" also in it. All I captured were thin and flat, with no blood in them. Did these enterprising fleas prevent the *Acanthia* from getting any of my blood? The rain leaked through the roof onto my bed, I moved the bed and placed a tin bucket under the leak, but when I looked next morning to see how much water I had caught, there was none there. The bucket had a hole in the bottom and the water had passed down onto the landlord's bed which was in the room below. This roof was like a good many I have seen in Kentucky, when it rains they can't fix them, and when it clears they don't leak. From here to Clayton was a nice walk of about ten miles, easily made in three hours. Here I found Leng and Davis comfortably fixed at the Hotel Dozier which they had turned into a veritable "Bug House." Two days later Dr. Love, of New York, came and we searched the country for miles around for insects. My share of the spoils consisted in about 300 species, 240 of which were coleoptera. Very few were new species, being mostly common things, identical with the fauna of south Ohio and Kentucky. Screamer Mountain yielded a huge cistelid, that is perhaps a new genus, and two clerids that may be new. This mountain (Screamer) has a legend that in early times an Indian chief, suspecting his squaw of infidelity, pursued her, to kill her. He wounded her with an arrow, and she ran screaming up the mountain side. Hence the name of this pretty mountain. Leng smoked the pipe of peace on the mountain top, but forgot his pipe and had to go back after it, when we, on our return and had nearly reached the bottom. This was the most laborious and painful episode of the trip.

W. S. BLATCHLEY, of Indianapolis, Indiana, has almost ready for the press a descriptive catalogue of the Coleoptera known to occur in Indiana. It will be along the same lines as his "Orthoptera of Indiana," published in 1903, and will be issued as one of the reports of the Indiana Department of Geology and Natural History. Any person outside of the State having examples of rare or interesting species *known to have been taken in Indiana* will confer a favor by sending him data regarding them.

ENTOMOLOGICAL NEWS.

[The Conductors of ENTOMOLOGICAL NEWS solicit and will thankfully receive items of news likely to interest its readers from any source. The author's name will be given in each case, for the information of cataloguers and bibliographers.]

To Contributors.—All contributions will be considered and passed upon at our earliest convenience, and, as far as may be, will be published according to date of reception. ENTOMOLOGICAL NEWS has reached a circulation, both in numbers and circumference, as to make it necessary to put "copy" into the hands of the printer, for each number, three weeks before date of issue. This should be remembered in sending special or important matter for a certain issue. Twenty-five "extras," without change in form, will be given free, when they are wanted; and this should be so stated on the MS., along with the number desired. The receipt of all papers will be acknowledged.—ED.

PHILADELPHIA, PA., NOVEMBER, 1909.

When this journal was commenced in 1890 we charged one dollar for it and the volume for that year consisted of 168 pages and no illustrations.

The subscribers were pleased with our efforts and gladly paid the dollar for 16 pages per month and no illustrations. Not being published for gain but in the interest of entomology and entomologists all income was put into an increased number of pages and illustrations, the magazine being really a mutual affair for the benefit of its patrons. In our effort to publish the papers that came to us we have steadily increased the number of pages and illustrations.

1890	168 pages	no plates
1905	344 pages	11 plates
1906	404 pages	15 plates
1907	458 pages	17 plates
1908	500 pages	25 plates

We have therefore been giving more for the money than any entomological journal in the world. We can't go on and improve as we would like and the time has arrived to decide whether to maintain the old price or increase it. At the old price of one dollar we would be compelled to refuse papers and many illustrations and on mature consideration decided to increase the subscription price to two dollars a year.

We are doing this in the interest of those persons wishing an avenue of publication for short papers and also in an effort to get papers into print in as short a time as possible. It should also be remembered that at present many more papers are illustrated and for that reason the expense of publication is infinitely greater. It will also enable us to continue to publish the doings of a number of entomological societies throughout the country. The NEWS is about to commence its twenty-first year of existence and its future depends to a great degree on the entomological fraternity. As in the past the editorial board will endeavor to do its part to achieve success. We sincerely hope that this step will meet with the approval of everyone and that the necessity for it will be appreciated. *

*This advance will not affect those who have paid their subscriptions for 1910. We do not object to them paying the other dollar if they so desire.

Notes and News.

ENTOMOLOGICAL GLEANINGS FROM ALL QUARTERS OF THE GLOBE.

DATES OF GUÉRIN'S ICONOGRAPHIE REGNE ANIMALI—The third volume of this work treating of the insects bears the dates 1829-1838 on the title page. Since in the text there are many references to later dates, even to 1844, most writers have given 1844 as the date of the work.

Recently in looking up the name of a flea I find that the plates and text were issued separately, and that 1838 probably represents the completion of the plates. Percheron, 1837, states that the plates were then nearly all published. These plates were issued in fascicles of 10 each; each fascicle was probably mixed groups as Guérin says in a footnote (page 13) that plate II was printed in December, 1836. The composition and date of each fascicle will be of much interest. The text of the work was not issued till 1845. The manuscript was submitted to the institute and approved in November, 1842. The first review of the completed work that I know of is in the "Moniteur Universel," 11 June, 1845, by Bory de Saint Vincent. This is republished in the French Annals for 1845, and also an advertisement of the book. Erichson, in the "Berichte" for 1846 says (p. 66): "The volume is scarcely before 1845 published, and first received in 1846 at Berlin. (Transl.)

The particular case is the genus *Dermatophilus* Guérin, page 14. This

genus does not appear on the plates, only in the text, so cannot date before 1845.

The genus *Sarcopsylla* Westwood was published in 1840, so has priority over *Dermatophilus*. *Rhynchoprion* used by Mr. Baker instead of *Sarcopsylla* is preoccupied by *Rhynchoprion* Hermann 1804 in the Acarians.

All those who hold that a named figure is valid without text must credit such names on Guérin's plates at least as early as 1838; while names only in text should not date before 1845.—N. BANKS.

THECLA DAMON CRAM. AND ITS VARIETIES.—This past summer, from July 18th to August 10th, I found *Thecla damon* in unusual abundance on South Mountain, Wernersville, Pa. Unfortunately most of them were faded and worn; but of fifty or sixty specimens sufficiently good to be worth spreading and of several times this number which I rejected, all the females were either the dark form *patersonia*, with no trace of fulvous scales, or intermediate between *patersonia* and typical *damon*, from examples showing faint traces of the fulvous scales on the secondaries to others with fully one-third of the wing-area more or less overlaid with fulvous; all of the males were either the dark form, *patersonia*, the yellow form, *discoidalis*, or intermediate between these, with full intergrades.

Patersonia has been recorded from Long Island (Scudder), New Jersey (Brehme), Virginia, South Carolina (Smyth), and I have specimens from Georgia and Delaware as well as Pennsylvania; *discoidalis* was described from a Texas specimen, but Dr. Skinner has it from other localities; both forms occur in the spring and summer broods. ..

Is the absence of typical *damon* at Wernersville due to local and temporary causes,—perhaps the almost unprecedentedly dry season,—or have *patersonia* and *discoidalis* replaced it there?.—FRANK MORTON JONES.

HOPS AND FLIES.—I was greatly interested last summer and fall in all that appeared in "The Christian Advocate" in regard to abating the house-fly nuisance. My colleague, Miss Blackburn, and I have learned a simple and effective method of freeing a house from the common fly and also from the "blue-bottle," that seems entirely possible to many people unable perhaps to afford methods costing money. To "write it up" for a paper would not be very effective, for my name would carry no weight, but I would like to lay a bit of our experience before you. I am sure you will be interested.

We have observed through more than eight years that in summer our house, unscreened, located in a town and land where filth and rubbish abound as almost nowhere in America, is in the kitchen and dining room wholly free from the pest of flies. We may cook meats,

bake pastry and cakes, can fruit and make jelly all day with wide open doors and windows and not a fly enters. Our kitchen has two windows, one door opening onto a small porch and one door into an inner room. Running over the porch and trained over the two windows of the kitchen are thrifty, common hop vines. They start early in the spring and die down in the late fall. We have believed they gave us freedom from flies but had no absolute proof. Last summer the removal of the vines, temporarily, in order to whitewash the building, gave us what we regard as a demonstration. It was in August. The vines were carefully laid down on the ground while the whitewashing was done, but they had scarcely been so taken from the windows when flies began coming into the room. During the two or three days that the hop vines were down the flies came in so badly we shut our windows. As soon as the work was done we put up the vines as well as possible into their accustomed places, drove out the unwelcome flies, and as a rain came and freshened the vines we again enjoyed freedom from flies. I might say that so slight attention, none in fact, is paid to fly sanitation here that in the summer it requires much grace to force ourselves to enter the average native house.

This quality of the hop vine may be entirely familiar to you, but as I said above, it has never come to my notice in "The Christian Advocate" articles nor indeed elsewhere. And it is so simple and possible that it seems worth while.

Very truly yours,

DORA DAVIS.

Lovetch, Bulgaria, May 4-17, 1909.

—*From The Christian Advocate.*

NEWSPAPER ENTOMOLOGY.

HER REWARD.—Professor (to his aged cook): "You have now been twenty-five years in my service, Regina. As a reward for your fidelity I have determined to name the bug I recently discovered after you."—*Fliegende Blaetter.*

The Hessian fly is a German product which was conceived in iniquity and born in sauerkraut. It is a long, rangy flea with a bite like a steel trap, and it lays a pale blue, oblong egg at the rate of 30,000 an hour. The Hessian fly will eat anything from decayed custard pie to a glass ink well, but its favorite dish is the double neck on a fat gent. This bird can perform a two-step on sticky fly paper without crooking its toes, and is proof against rough on rats, the daisy fly killer and a strychnine hypodermic. No Hessian fly was ever known to die of anything but old age, which accounts for the color of its whiskers. If it ever fastens upon your jowl, it will stay until removed by the undertaker.—*Manchester Press.*

PARASITE HELPS FARMERS.—GRASSHOPPER PEST IS BEING KILLED OFF IN NORTHERN MICHIGAN.—Marquette, Mich., July 23.—Owing to the appearance of a strange parasite that is killing off the destructive insects, the plague of grasshoppers that has beset the farmers in this part of the country this summer is becoming a thing of the past. F. H. Vandenboom, whose dairy farm at the outskirts of the city is the largest in the upper peninsula, has caught a number of grasshoppers within the last few days, under the wings of which were found a half dozen or more small red eggs, resembling potato bug eggs. From these eggs worms hatch out, which enter the lungs of the grasshopper underneath the wings, and within a short time cause death. It is estimated that grasshoppers have destroyed on an average of 40 per cent. of this year's crop in the upper peninsula.—*Dispatch*, St. Paul, Minn.

The government is importing caterpillars supposed to harbor parasites that are fatal to the *browntail moth*. Supposing the caterpillars multiply like the moth where will be the gain in the exchange of pests?—*Republican*, Faribault, Minn.

Doings of Societies.

At a regular meeting of the Feldman Collecting Social held June 16, 1909, at 1523 South Thirteenth Street, Philadelphia, fourteen members were present. President Harbeck in the chair.

Mr. Wenzel said he had noticed a scarcity of the larger Coleoptera in the last few years. Thought perhaps the presence of sparrows accounts for this as these birds are very common especially in "The Neck" where formerly he had found great quantities of large species; now they are entirely absent.

Professor Smith said that in the vicinity of Morris River, N. J., they have reclaimed much of the meadow land. The first year or two these places are covered with a great growth of reeds or rushes. These are plowed under and then strawberries are planted to get the soil in shape for other crops. This year the strawberries were destroyed by a species of *Amara* of the *exarata* section near *rufipes*. .This beetle appeared in great numbers and attacked the seeds (making the berries

unfit for market) though it has not lost its predatory habits as a farmer had given him a jar containing hundreds of specimens and he only managed to get about a dozen good ones from it.

Mr. Wenzel remarked on this species, saying he had at one time seen the beach entirely covered with this insect.

Mr. Daecke said he had been to Browns Mills, N. J., over night and had taken at light a dozen specimens of *Lagoa crispata* Payk a species of which he had only taken three specimens in all his collecting experience. Had also found *Chlaenius pracinus* Dej. under a board next day. Reported *Microdon aurulentus* Fab. and *Trichius bibeus* Fab. from Dauphin Co. VI-6-09, and *Myrmecomyia myrmecoides* and *Idana marginata* Say, from Harrisburg. Also exhibited a specimen of *Leptura proxima* Say., a freak with three antennae collected by Mr. Chamberlain.

Mr. Wenzel said he had found this *Leptura* and *Buprestis rufipes* Oliv. in great numbers under bark where they had died before working their way to the surface.

Mr. Harbeck exhibited specimens of *Asilus flavofemoratus* Hine, *A. fuscatus* Hine, *A. auricomus* Hine, *A. lecythus* Walker and *A. sadytus* Walker, all taken within a few miles of Philadelphia and stated that Professor Hine had been working on a revision of this difficult group with satisfactory results which will be published within a short time.

Mr. George M. Greene reported that he had put a dried specimen of *Coptocycla* in the relaxing jar and when it had become moist it resumed its natural golden color. Also said that live specimens of the Japanese Mantis had been placed in the woods at Roxborough and had been seen there alive a few weeks later, proving they had found food upon which to live.

Mr. C. T. Greene exhibited a specimen of *Volucella vesiculosa* Fabr. from Castle Rock, Pa. VI.-6-09.

Meeting adjourned to the annex.

GEORGE M. GREENE, Secretary.

EXCHANGES.

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Wanted in exchange or cash, in papers, *Cychrus*, Cicindelidae, *Carabus*, *Calosoma*, Lucanidae, Buprestidae and eggs of larger moths, only native.—Adolph Mares, 1206 So. Homan Ave., Chicago, Ill.

Wanted in enchange or for cash fertile eggs of larvae of *Parasemia plantaginis* and their varieties, also eggs or larvae of *Apantesis* and allied genera.—M. R. 835 Mathew Ave., Scranton, Pa.

Coleoptera—Wanted parties at a distance to exchange specimens. Correspondence solicited.—A. E. Allen, 112 Vanderbilt Ave., Brooklyn, New York.

Eggs—Would like to buy eggs of Sphingid and Saturnid moths or of any other large moth. Please mention food plants and price. Will not pay more than 5c. per doz.—S. L. Wright, Jr., Bay Head, N. J.

Indian and Venezuelan butterflies to exchange for others. Desire large and showy North American and Mexico.—George Rossiter, 618 Queen E, Toronto, Canada.

Exotic butterflies given in exchange for stamp collection or unused current issue your locality.—Geo. Rossiter, 618 Queen E, Toronto, Can.

Living pupae and cocoon wanted of the following for cash or exchange from one to one hundred of each species: *A. luna*, *C. imperialis*, *regalis*, *dictynna*, *jorulla*, *orizaba*, *splendida*, *gloveri*, *calleta*, *columbia*, *californica*, *angulifera*, *C. pandora*, any *Sphinx*, any *Papilio* and eggs of any Catocalae.—A. F. Porter, Decorah, Iowa.

Wanted—All kinds of pupae and cocoons from North America and Mexico, either for cash or good exchange.—Herman H. Brehme, 74 13th Avenue, Newark, N. J.

Cocoons—*S. cynthia* to exchange for *S. cecropia*, *C. promethia*, *T. polyphemus* and other pupae or Lepidoptera in papers.—John H. West, 2229 N. Mascher St., Phila., Pa.

Wanted for cash or exchange, 2 female and 2 male *Arg. diana;* must be in perfect condition to be acceptable. I have many specimens in papers to exchange.—G. H. Hosenfelt, 3673 S. Broadway, St. Louis, Mo.

Saturnidae—Have always for exchange ova, cocoons or set imagines of Japan, Africa, Ceylon, India and Malayan Saturnidae as *Attacus edwardsi*, *Actias selene*, *Caligula japonica*, *simla* and a new species of *Cricula*. Wanted live cocoons or ova Central American and Mexican *Attacus*, also *luna*, *colombia*, *calleta* and *shastaensis*. Old correspondents invited to write.—J. Henry Watson, 70 Ashford Road, Withington, Manchester, England.

I have for exchange eggs of *Catocala cara*, *vidua*, *piatrix*, *scintillans* and, on pins, imagoes of *illecta*, *innubens*, *robinsoni*, *vidua* and others. Wish imagoes of *Marmorata viduata*, *junctura*, etc.—R. R. Rowley, Louisiana, Mo.

Dytiscidae wanted by exchange or purchase Henshaw's numbers 1236, 1239, 1241, 1260, 1271, 1272, 1307, 1311, 1336, 1337, 1341, 1351, 1363, 1373, 1376, 1398, 1407, 1416, 1429, 1450, 1453, 1456, 1070, 1471, 1500, 1503, 1504.—John D. Sherman, Jr., 335A, Decatur St., Brooklyn, N. Y.

Offered—Fine *Parn. apollo*, *deltius*, *mnemosyne*, *Arg. paphia*, *A. aglaia*, *lathonia*, *Lyc. coridon*, *semiargus* and other butterflies. Wanted pupae of Papilios *S. geminatus*, *astylus*, *excaecatus*, *cerisyi*, *myops*, cocoons of *gloveri*, etc.—J. W. H. Harrison, 181 Abingdon Road, Middlesbro, England.

Coleoptera—Many rare species from the Arkansas Valley, Kansas — J. C. Warren, Mt. Hope, Kansas.

Coleoptera exchanged for species not represented in my collection. Endomychidae and Erotylidae especially desired.—R. J. Crew, 561 Carlan Ave., Toronto, Canada.

Exchange—Living pupae of *M. modesta*, *Sph. chersis*, *A. bicolor*, *Pap. cresphontes*, *Pap. asterias* for native or exotic Lepidoptera.—A. Mares, 2517 Homan Ave., Chicago, Ill.

Wanted in exchange, perfect specimens of the genus *Parasemia*, *Apantesis* and allied groups, also Pieridae and *Catocala*. List of duplicates will be sent on application; also want eggs of *Catocala* for cash or exchange.—M. Rothke, 835 Mathew Ave., Scranton, Pa.

Lepidoptera—Pupae of *cresphontes* and *troilus* to exchange.—F. Malkmus, 3735 Cottage Ave., St. Louis, Mo.

Lepidoptera—I have for exchange first-class *Catocala epione*, *lacrymosa*, *paulina*, *evelina*, *retecta*, *luctuosa*, *flebilis*, *robinsonii*, *curvata*, *obscura*, *residua*, *insolabilis*, *angusi*, *lucetta*, *ultronia*, *innubens*, *hinda*, *scintillans*, *nebulosa*, *palaeogama*, *anida*, *phalanga*, *habilis*, *basilis*, *cerogama*, *parta* ahd others. Wish *agrippina*, *subviridis*, *californica*, *frenchii*, *portia*, *aspasia*, *rosalinda*, *mariana*, *faustina* and *aholibah*.—Ernst Schwarz, 6310 Newstead Ave., St. Louis, Missouri.

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